OMO

CAMERA

LUBITEL · 2

Leningrad
Optical-Mechanical
Enterprises,
Amalgamated

CAMERA
LUBITEL 2

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GENERAL FEATURES

The "Lubitel-2" is a low-priced modern camera intended for amateurs.

The camera design incorporates many advantages: speed lens, combination reflex and frame type viewfinder, means for accurate focusing, between-the-lens shutter provided for five fast shutter speeds plus setting for *B* exposure, self-timer and flash synchronizer.

The camera can be loaded in daylight and can be operated hand-held as well as mounted on a tripod; when using interchangeable supplementary lenses, the camera can be employed for reproduction work.

The camera takes up to twelwe 6×6 pictures on standard wide film.

When the reflex viewfinder is opened, a large and distinct image will be seen in the

ground glass at any illumination, it allows to adjust the camera position when the object has been already chosen, or to find a new interesting object.

The viewfinder image focusing is effected by slight turning any of the lens knurled rings.

Range, diaphragm and exposure scales as well as all setting knobs are located so as to ensure quick convenient service.

The number of exposures made is seen in the peep window and is indicated by figures provided on the light-protective paper.

The reflex viewfinder allows to take pictures with the camera held above the photographer's head or turned horizontally taking pictures at the right angle.

The frame viewfinder is used for photographing at eye-level (in this case the pictures obtained are characterized by more natural perspective); the frame viewfinder is very convenient when the photographer is skilful enough to estimate distance by eye and to achieve sharp focusing by means of the distance scale.

The camera is loaded in daylight. To facilitate the loading, the camera is provided with a hinged back.

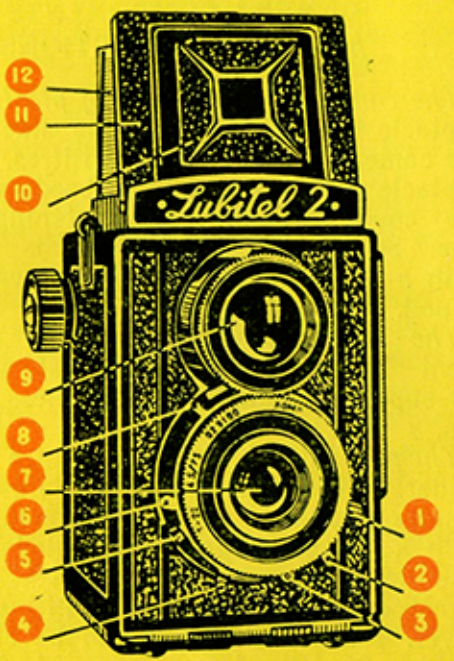
CAMERA COMPONENTS AND THEIR FUNCTIONS

The camera body is made of plastics. A receptacle with a cover in the side wall of the camera accomodates the filtres. The receptacle may be opened or closed by turning the cover around the fastening screw. The bottom of the camera is provided with a nut for mounting the camera on the tripod.

The taking lens is a coated three-element 7.5 cm f/4.5 anastigmat providing for superior quality and sharpness of pictures.

The reflex viewfinder incorporates the viewfinder and a ground glass representing a small circle in the centre of the collector lens with a hinged magnifier mounted above it. The viewfinder is provided with a metal lighthood which opens when lifting the top cover. The viewfinder should be closed observing the following sequence of operations: first close the magnifier, then the hood side walls, the hood rear panel with a square window and then the hood front panel unit it catches.

The viewing lens has an aperture ratio 1 : 2.8, which is considerably higher than



1 — flash contact; *2* — automatic release lever; *3* — diaphragm setting lever; *4* — exposure setting ring guide; *5* — cable release threaded socket; *6* — shutter release lever; *7* — taking lens; *8* — shutter cocking lever; *9* — viewing lens; *10* — panel; *11* — front frame; *12* — light protective hood

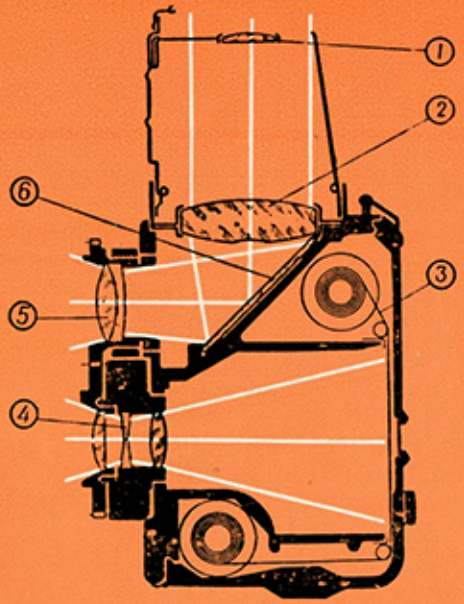
that of the taking lens and therefore is more suitable for accurate focusing.

Focusing of image on the ground glass circle and on the film takes place simultaneously, as both lenses are coupled through knurled wheels. The nearest possible range for focusing is 1.4 cm. Photographing of objects at closer distances may be performed with close-up supplementary lenses.

Focusing is to be made on the ground glass circle centre. If the object that is desired to be most sharp should be located at the picture edge, the camera is to be turned while focusing so that the image of this object would appear in the centre, and prior to the shutter release the camera should be turned back to its initial position.

The magnifier is attached to the reflex viewfinder hood from inside. The magnifier is set to working position by pulling it up from the hood.

The frame viewfinder is formed by the front frame and rear panel. To open the viewfinder, it is necessary to press down the hood front panel until it catches; to close the viewfinder is enough slightly to pull on the hood rear panel. When viewing, the camera should be held at eye-level, the object should be sighted through a square window in the hood



1 — magnifier; *2* — collector viewing lens with ground glass circle at the bottom; *3* — film; *4* — taking lens; *5* — viewing lens; *6* — mirror

rear panel keeping the camera at a distance at which the window edges coincide with those of the square opening in the hood front panel. In this case the limits of the field of view will be the limits of the shot.

The distance scale is engraved on the viewfinder lens mount, its divisions indicate meters.

The between-the-lens shutter offers the automatics exposure speeds $^1/_{250}$; $^1/_{125}$; $^1/_{60}$; $^1/_{30}$; $^1/_{15}$ sec. When setting the shutter at index *B*, it is possible to exposure for any length of time depending on how long the release knob is held depressed. Shutter speeds are selected by turning the exposure setting ring guide until the index line on the ring edge coincides with the point indicating the desired shutter speeds (intermediate positions of the index line do not correspond to mean values of shutter speeds).

Prior to exposing, the shutter should be cocked by turning the shutter cocking lever downwards as far as it goes. When releasing the shutter, the release lever or cable release screwed into a threaded socket should be smoothly pressed. Set at *B* the shutter remains open as long as the release lever is pressed.

The self-timer built into shutter is wound up by turning the lever downwards as far as it goes. The device is operated as follows: having set the required shutter speed, wind up the shutter cocking and automatic release levers, then press the shutter release lever. The shutter releases automatically after a delay of 7—12 sec, and the picture is taken.

One must keep in mind that on setting the shutter to index "B" with release button being pressed (shutter window is open) the automatic release lever should be never cocked.

The flash bulb synchronizer provides for synchronization of the bulb flash with a moment of the shutter full opening.

When using automatic-flash bulbs, the shutter may be set at any shutter speed.

When using the single flash, the shutter is to be set to $^1/_5$ sec or "B".

The synchronizer operates automatically after the shutter has been released.

The diaphragm is provided inside the shutter mechanism between the elements of the taking lenses; it controls the lens opening.

The change of the lens opening is effected by turning the lever with indicator around the scale.

Depth of Field Table for Lens (focal length — 7.5 cm)

Distance scale division in meters	Diaphragm 1 : 4.5	1 : 5.6	1 : 8	1 : 11	1 : 16	1 : 22
1.4	1.33— 1.48	1.32— 1.51	1.28— 1.56	1.24— 1.62	1.19— 1.75	1.12— 1.93
2	1.86— 2.17	1.83— 2.22	1.77— 2.33	1.69— 2.48	1.58— 2.79	1.47— 3.26
2.8	2.53— 3.15	2.48— 3.25	2.36— 3.49	2.23— 3.84	2.04— 4.60	1.86— 6.04
4	3.47— 4.75	3.37— 4.97	3.15— 5.55	2.92— 6.48	2.61— 8.99	2.31—16.70
5.6	4.62— 7.17	4.43— 7.70	4.06— 9.16	3.69—12.00	3.20—24.68	2.76— ∞
8	6.13—11.62	5.80—13.06	5.19—17.90	4.58— ∞	3.85— ∞	3.23— ∞
11	7.74—19.21	7.22—23.48	6.29— ∞	5.43— ∞	4.42— ∞	3.62— ∞
∞	25.83— ∞	20.76— ∞	14.53— ∞	10.57— ∞	7.26— ∞	5.28— ∞

The lens opening is changed in cases when it is desirable to increase the depth of field or when the amount of light is too large at a selected shutter speed. Depth-of-field values of the taking lens at various diaphragm settings and distances are given in the Table.

Any change of exposure scale setting corresponds to double change of exposure time.

Diaphragm scale settings (except the first) are calculated so that changing the lens opening by one setting doubles or makes two times less the amount of light reaching the film. For instance, exposure time with an aperture ratio 1 : 5.6 should be twice as less as the previous one (1 : 8). If the exposure time for the diaphragm 1 : 5.6 is known, but lighting conditions require a diaphragm of 1 : 16 the exposure time should be 8 times increased as the diaphragm setting lever is to be displaced by three settings.

The figures engraved on the exposure and diaphragm scales indicate only fraction denominators: for example, 15 instead of 1 : 15, 4.5 instead of 1 : 4.5 etc.

The diaphragm scale between figures "8" and "11" and the distance scale between

figures "11" and "8" are marked with red dots. When the diaphragm is set on these dots all objects at a distance of 4.5 m to ∞ are reproduced with sufficient sharpness.

LOADING THE CAMERA

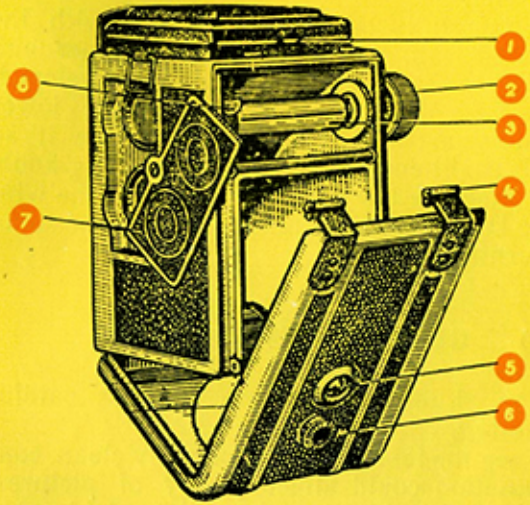
1. Open the camera back, raising preliminarily both lock springs in turn.
2. Brake the seal of the film spool, insert the end of the film protective paper into a slit of the take-up spool and fold it; then by turning the film winding knob, wind up 2—3 layers of the paper on the spool.
3. Having convinced in the proper tension of the paper, bend the spring down with a finger and insert the film spool into the film compartment between the spring and compartment wall, after that release the spring. Shut the cover and press the lock springs.
4. Turn the window cover knob counterclockwise and turn the winding knob until first the warning marks on the protective paper and later figure "1" appear in the red window; then close the window cover, and the camera is ready for service.

TAKING PICTURES

1. Adjust the lens opening.
2. Set the shutter to the exposure required and wind it up.
3. Find the shot limits by means of the viewfinder.
4. Focus on the object until the ground glass image is sharp.
5. Release the shutter lever.
6. Advance the film (just after taking each picture, lest you should forget). To do this, open the peep window cover and turn slowly the winding knob until the next exposure number appears, then close the window cover.

UNLOADING THE CAMERA

1. After the twelfth exposure has been made, rewind the film protective paper. Sometimes when the winding is almost completed, the turning of the knob is detained by the paper jammed in the take-up spool slit. However, this should not prevent unloading the camera in daylight.
2. Open the camera back.
3. Pull out and slightly turn the film winding knob.



1 — viewfinder hood lock; *2* — film winding knob; *3* — take-up spool; *4* — camera back springlock; *5* — peep window; *6* — peep window cover knob; *7* — cover of filter accomodating receptacle; *8* — spool-holder tang

4. Get the spool-holder out of the camera body (by turning the holder tang towards oneself).

5. Garefully take out the spool with the exposed film, seal the protective paper end and keep the film safety until it is developed.

6. Take the next spool out of the lower compartment of the holder and place it so that its slit end would face the winding knob.

7. Replace the holder and turning the winding knob clockwise, make sure that the spool is turning.

GENERAL INSTRUCTIONS

The "Lubitel 2" camera requires careful handling.

Keep the lens surface absolutely clean, contamination could affect quality of pictures.

Clean the objectives from the outside only with a clean linen rag or cotton wool breathing preliminarily on lens surface.

Do not dismantle the camera.